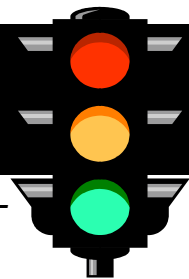


Occupant Protection

2003

OCCUPANT PROTECTION

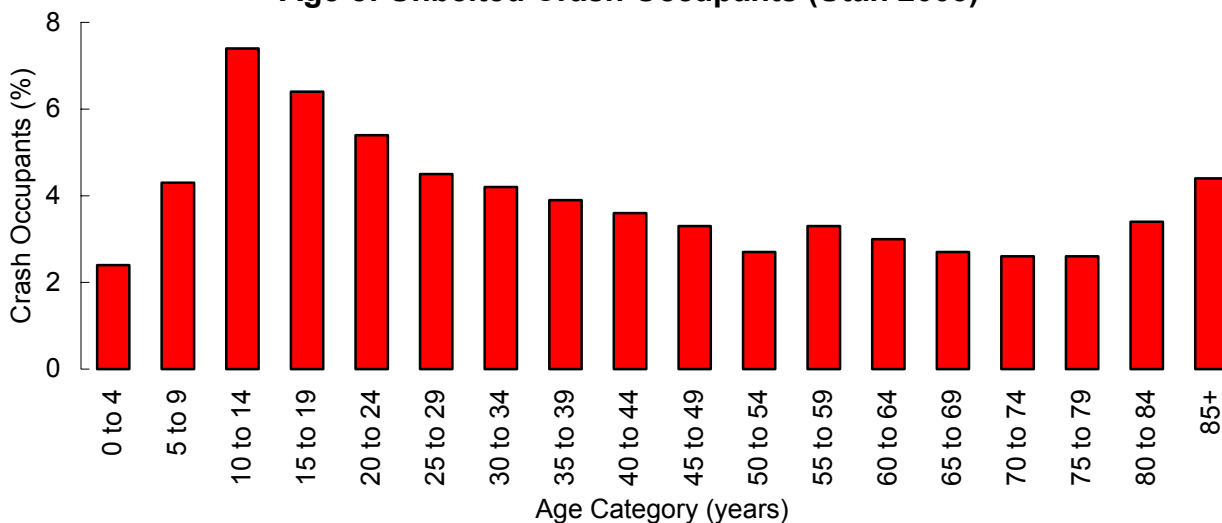


Failure to "buckle up" contributes to more fatalities than any other traffic-safety-related behavior.

Did you know that in 2003 . . .

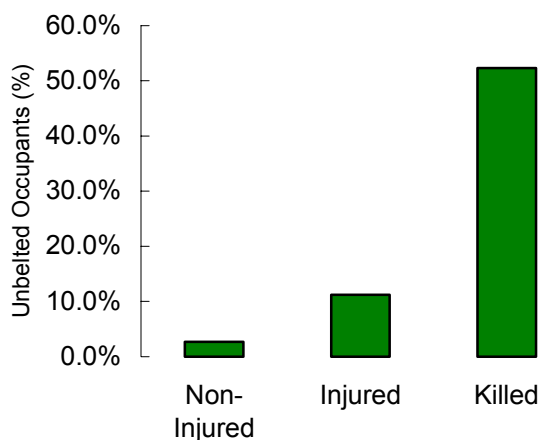
- Unbelted crash occupants were 23 times more likely to die in a crash than belted crash occupants.
- An unbelted crash occupant was killed in Utah every 3 days.

Age of Unbelted Crash Occupants (Utah 2003)



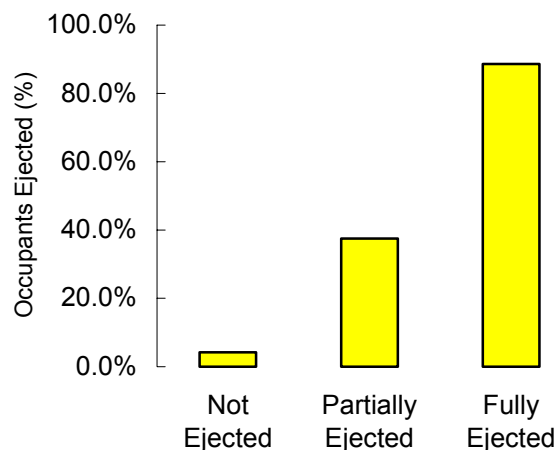
- The highest percentage of unbelted crash occupants were aged 10 to 14 years (7.4%)
- In addition, 83.3% of 10 to 14 year-olds that were killed in a crash were unbelted.

Injury Severity of Unbelted Occupants



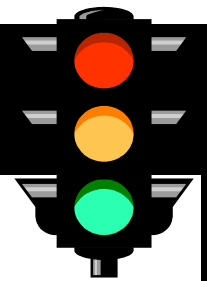
- The above graph shows that 52.3% of crash occupants killed in a crash were unbelted.
- The majority of persons who survived a crash reported wearing a seatbelt.

Ejection and Seatbelt Use

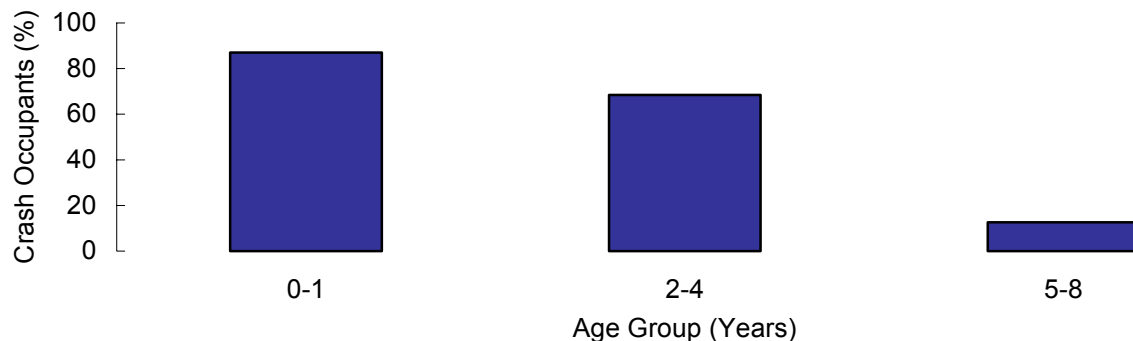


- The above graph shows that 88.6% of crash occupants ejected from a motor vehicle were unbelted. Only 4.2% of crash occupants not ejected from a motor vehicle were unbelted.

OCCUPANT PROTECTION



**Percent of Children in Crashes Using Child Safety Seats
(Aged 0 to 8 years)**



- Only 64.8% of 2 to 4 year olds, and 12.6% of 5 to 8 year olds were reported as being in a child safety seat at the time of the crash.
- The decrease in child safety seat use for children aged 2 to 8 years is concerning. The National Highway Traffic Safety Administration recommends that older children ride in belt-positioning booster seats until they are approximately 80 pounds and can use an adult-size lap and shoulder belt system. The percentages of child safety seat use in the above graph indicate that children are often moved to adult-sized seatbelts prematurely.

Child Safety Seat Recommendations:

- Infants should be placed in a rear-facing safety seat until they are at least 20 pounds AND one year of age.
- NEVER place a rear-facing child safety seat in the front seat of a vehicle with a passenger side air bag.
- Children over one year of age weighing 20-40 pounds should ride in forward facing child safety seats.
- Older children (approximately 4-8 years of age) should ride in belt-positioning booster seats until they are approximately 80 pounds and can use an adult-size lap and shoulder belt system.
- Avoid using secondhand child safety seats especially if it does not have the original instruction booklet, if it has been used in a crash, it does not have the manufacturer's date and model number on it, or if it is more than six years old.
- If your car has lap/shoulder combination belts, it could be critical to use a locking clip to properly secure your safety seat to the car. Consult the vehicle owner's manual.
- The safest place for any child aged 12 and under is in the back seat of the vehicle.

Seatbelt Recommendations:

- Always use both the lap and shoulder belt. When worn properly, the shoulder belt should fit across the collar bone and the lap belt should fit low over the hips.
- Never place the shoulder strap under your arm or behind your back.
- Use belt-positioning booster seats for children who have outgrown their toddler safety seat (at about 4 years of age and 40 pounds). Booster seats help position an adult-size seatbelt for a safer fit on children.

Safety Restraint Laws (Effective July 1, 2000):

- Utah law requires all motor vehicle occupants to be wearing a seatbelt when traveling in a motor vehicle. This is a secondary law which means a person may be issued a citation and subject to a \$45 fine only when the police officer has stopped the vehicle for another reason.
- The law is primary for drivers and passengers under age 19 years.
 - ⇒ Children age 4 years and under must ride in an approved child safety seat; and
 - ⇒ Children aged 5 to 19 years must ride in an approved child safety seat or safety belt.
 This primary law means a person may be issued a citation and subject to a fine of not more than \$45 if a law enforcement officer notices children are not properly restrained.

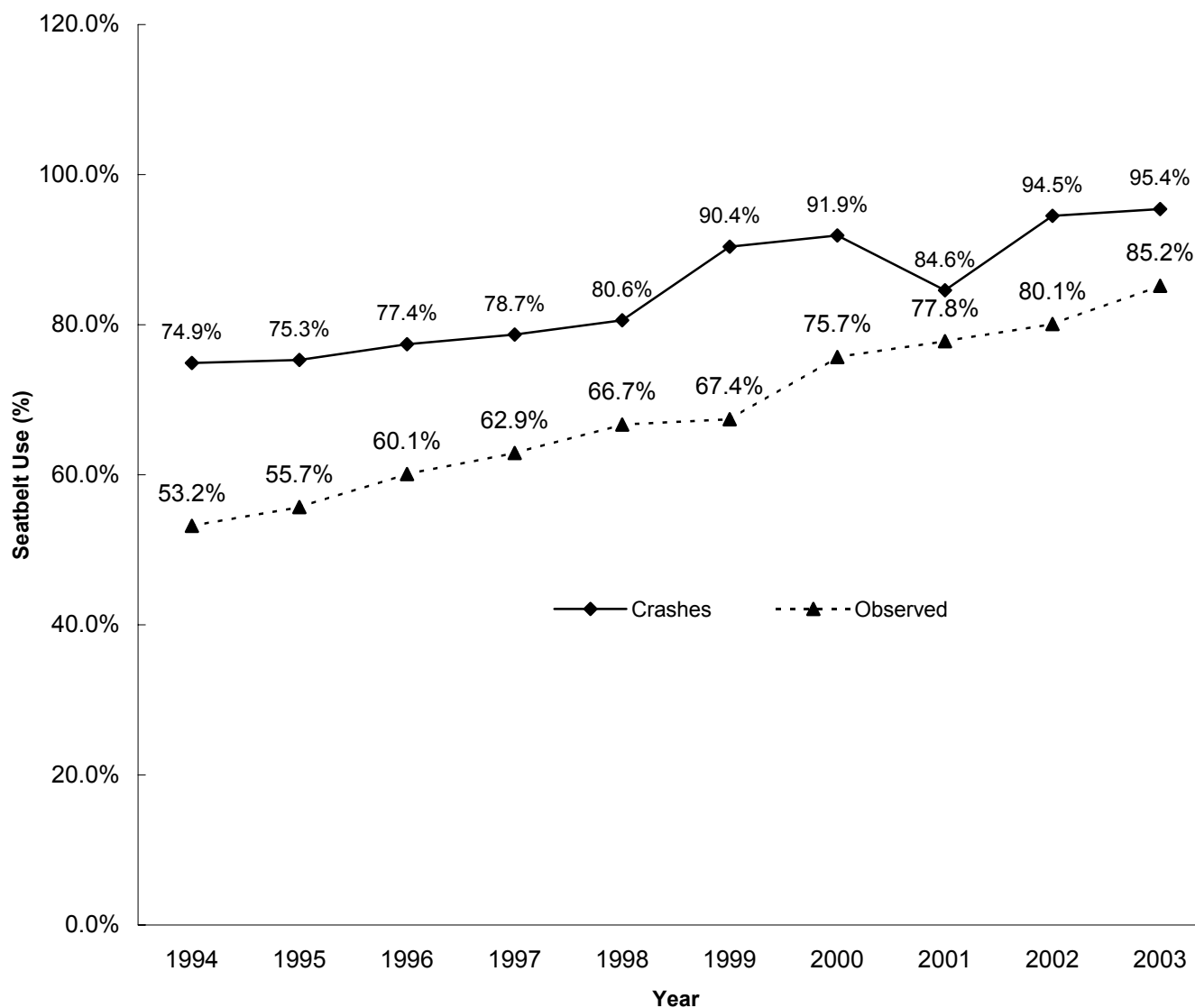
Section 2: Occupant Protection

Section 2: Occupant Protection 2003

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Trends

Seatbelt Use of Drivers and Front Seat Passengers In Crashes and Observational Studies (Utah 1994-2003)



- Historically, there have been differences between self-reported seatbelt use of people in crashes, and seatbelt use that is observed by researchers in observational studies.
- The difference between self-reported seatbelt use of people in crashes, and observed seatbelt use may be due to over-reporting by the people involved in crashes.
- The above graph compares the self-reported and observed percentage of seatbelt use by drivers and front-seat passengers.
- While there is some year-to-year variation, the ten-year trend shows an increase of seatbelt use by drivers and front-seat passengers in both crash and observational studies.
- In 2003, the observational seatbelt use increased to 85.2% from 80.1% in 2002; a 6% increase.
- The 2003 self-reported seatbelt use rate of people in crashes was 95.4%; a 1% increase from 2002.

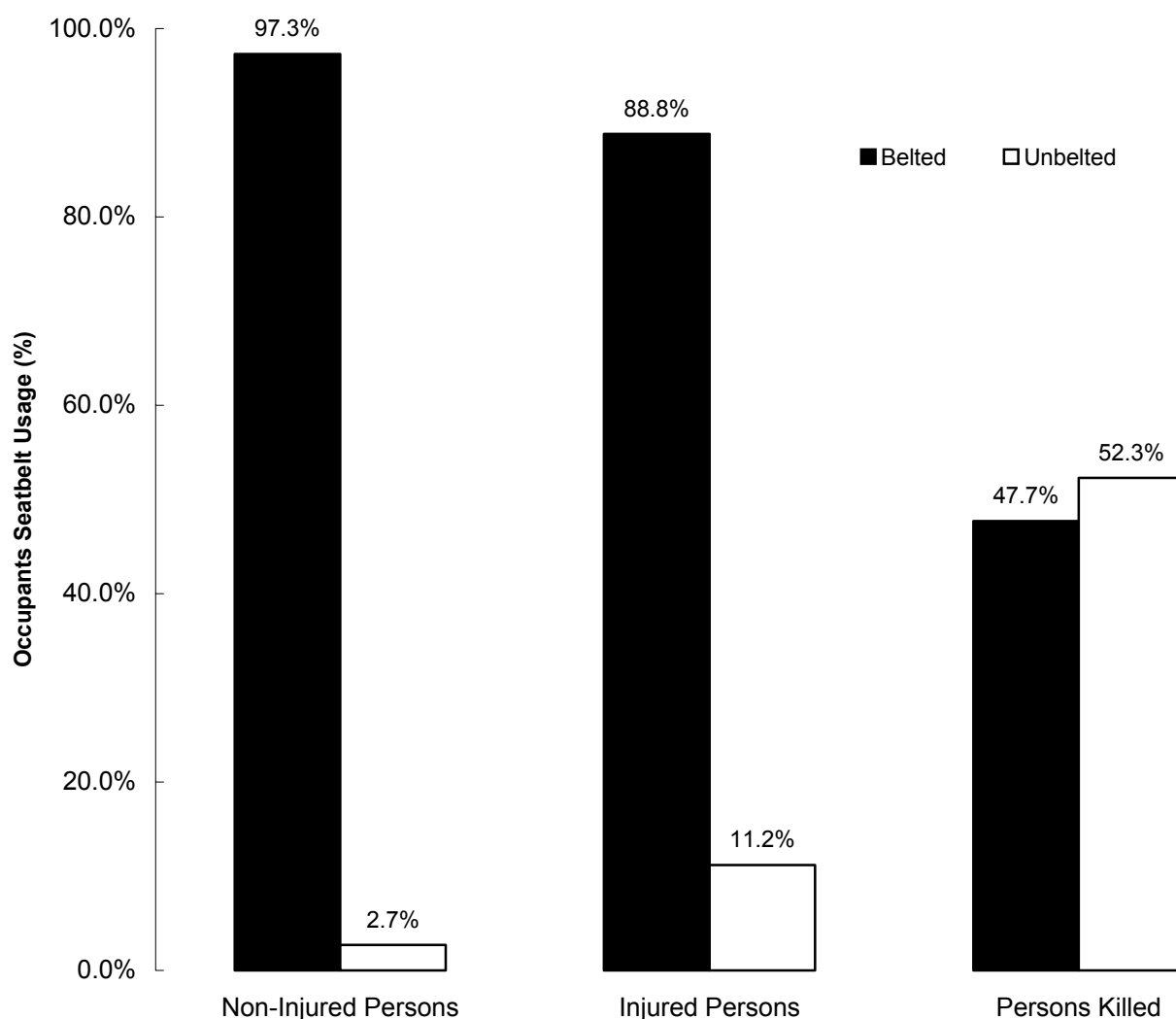
Occupant Characteristics (Including Driver)

Seatbelt Use by Injury Severity (Utah 2003)

Seatbelt Use	Persons							
	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
	#	%	#	%	#	%	#	%
Belted	87,954	97.3%	20,691	88.8%	103	47.7%	108,748	95.4%
Unbelted	2,480	2.7%	2,616	11.2%	113	52.3%	5,209	4.6%
Total	90,434	100.0%	23,307	100.0%	216	100.0%	113,957	100.0%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

Seatbelt Use by Injury Severity (Utah 2003)



- The majority of persons who survived a crash reported wearing a seatbelt; non-injured persons (97.3%), injured persons (88.8%).
- In contrast, less than half (47.7%) of the persons killed in a crash were belted.
- In fact, unbelted crash occupants were 23 times more likely to be killed than belted crash occupants.

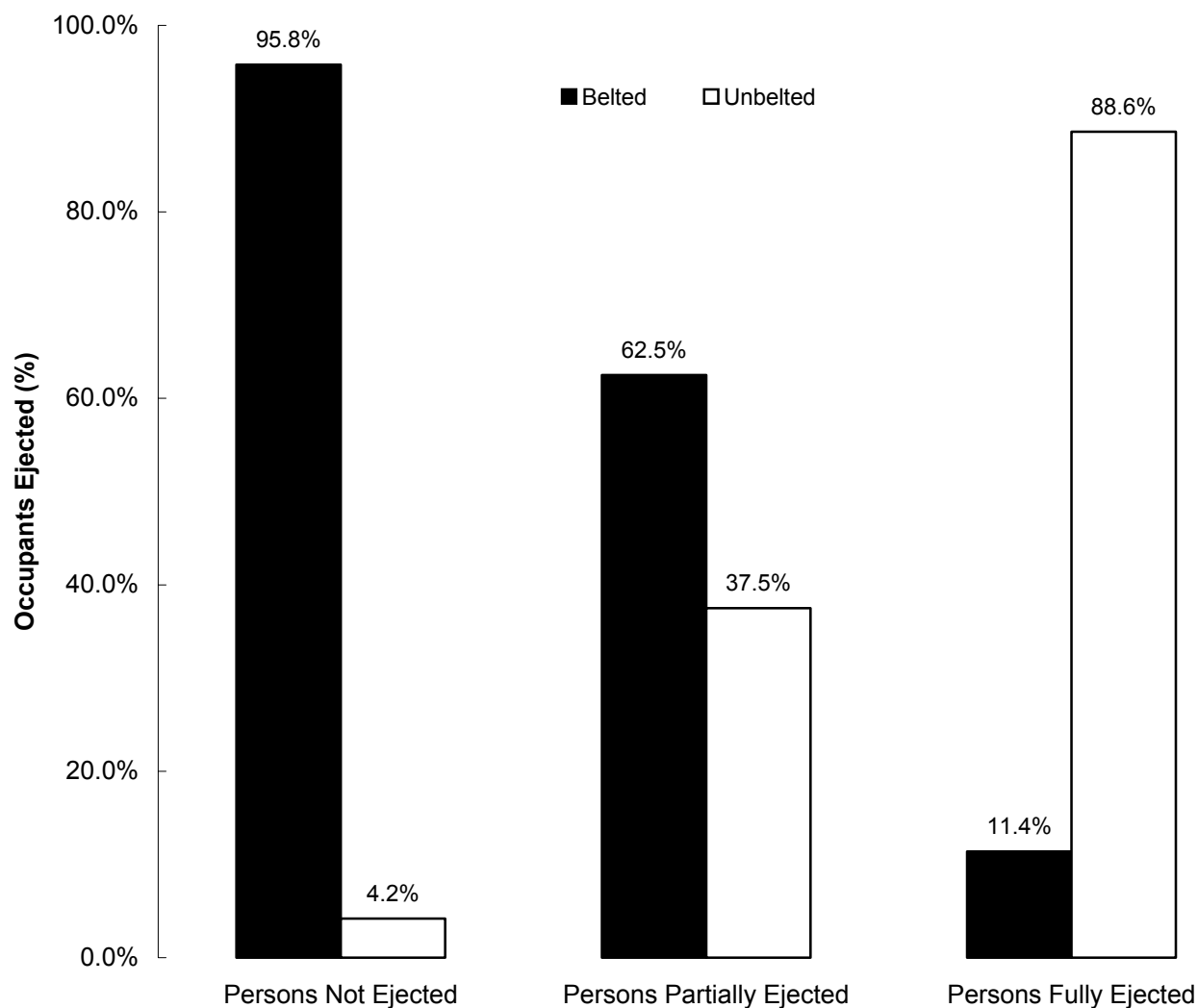
Occupant Characteristics (Including Driver)

Ejection and Seatbelt Use (Utah 2003)

Seatbelt Use	Persons							
	Persons Not Ejected		Persons Partially Ejected		Persons Fully Ejected		Total Persons	
	#	%	#	%	#	%	#	%
Belted	91,324	95.8%	60	62.5%	43	11.4%	91,427	95.4%
Unbelted	4,030	4.2%	36	37.5%	334	88.6%	4,400	4.6%
Total	95,354	100.0%	96	100.0%	377	100.0%	95,827	100.0%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

Ejection and Seatbelt Use (Utah 2003)



- The above table and graph show an inverse relationship between ejection from a motor vehicle and seatbelt use.
- The majority of crash occupants ejected from a motor vehicle (88.6%) were reported as being unbelted, compared to only 4.2% of crash occupants not ejected from a motor vehicle.

Occupant Characteristics (Including Driver)

Seatbelt Use by Age of Crash Occupants (Utah 2003)

Persons									
Age	Seatbelt Use	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
		#	%	#	%	#	%	#	%
0-4	Belted	6,112	98.6%	900	91.9%	6	60.0%	7,018	97.6%
	Unbelted	89	1.4%	79	8.1%	4	40.0%	172	2.4%
5-9	Belted	3,134	98.0%	563	85.0%	4	66.7%	3,701	95.7%
	Unbelted	64	2.0%	99	15.0%	2	33.3%	165	4.3%
10-14	Belted	3,061	95.9%	665	80.6%	1	16.7%	3,727	92.6%
	Unbelted	131	4.1%	160	19.4%	5	83.3%	296	7.4%
15-19	Belted	17,544	96.1%	3,750	83.6%	11	34.4%	21,305	93.6%
	Unbelted	710	3.9%	735	16.4%	21	65.6%	1,466	6.4%
20-24	Belted	14,544	96.8%	3,257	86.5%	10	35.7%	17,811	94.6%
	Unbelted	483	3.2%	509	13.5%	18	64.3%	1,010	5.4%
25-29	Belted	9,145	97.2%	2,162	89.2%	17	65.4%	11,324	95.5%
	Unbelted	262	2.8%	262	10.8%	9	34.6%	533	4.5%
30-34	Belted	6,505	97.7%	1,693	89.7%	5	41.7%	8,203	95.8%
	Unbelted	154	2.3%	195	10.3%	7	58.3%	356	4.2%
35-39	Belted	5,231	97.8%	1,365	90.6%	5	50.0%	6,601	96.1%
	Unbelted	120	2.2%	142	9.4%	5	50.0%	267	3.9%
40-44	Belted	5,230	97.9%	1,333	91.8%	4	30.8%	6,567	96.4%
	Unbelted	114	2.1%	119	8.2%	9	69.2%	242	3.6%
45-49	Belted	4,408	97.9%	1,191	93.0%	5	50.0%	5,604	96.7%
	Unbelted	94	2.1%	90	7.0%	5	50.0%	189	3.3%
50-54	Belted	3,652	98.1%	1,017	95.0%	4	66.7%	4,673	97.3%
	Unbelted	72	1.9%	54	5.0%	2	33.3%	128	2.7%
55-59	Belted	2,684	98.0%	785	93.5%	5	38.5%	3,474	96.7%
	Unbelted	54	2.0%	55	6.5%	8	61.5%	117	3.3%
60-64	Belted	1,948	98.0%	564	94.2%	4	44.4%	2,516	97.0%
	Unbelted	39	2.0%	35	5.8%	5	55.6%	79	3.0%
65-69	Belted	1,418	98.2%	425	95.7%	5	41.7%	1,848	97.3%
	Unbelted	26	1.8%	19	4.3%	7	58.3%	52	2.7%
70-74	Belted	1,210	98.0%	361	96.0%	8	80.0%	1,579	97.4%
	Unbelted	25	2.0%	15	4.0%	2	20.0%	42	2.6%
75-79	Belted	969	98.0%	283	95.9%	2	66.7%	1,254	97.4%
	Unbelted	20	2.0%	12	4.1%	1	33.3%	33	2.6%
80-84	Belted	593	98.0%	211	93.8%	3	60.0%	807	96.6%
	Unbelted	12	2.0%	14	6.2%	2	40.0%	28	3.4%
85+	Belted	356	98.6%	115	87.8%	4	80.0%	475	95.6%
	Unbelted	5	1.4%	16	12.2%	1	20.0%	22	4.4%
Unknown	Belted	210	97.2%	51	89.5%	0	0.0%	261	95.6%
	Unbelted	6	2.8%	6	10.5%	0	0.0%	12	4.4%
Total	Belted	87,954	97.3%	20,691	88.8%	103	47.7%	108,748	95.4%
	Unbelted	2,480	2.7%	2,616	11.2%	113	52.3%	5,209	4.6%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

- Overall, crash occupants aged 10 to 14 years had the highest percentage of being unbelted (7.4%).
- For injured crash occupants, persons aged 10 to 14 years were again the most likely to be unbelted (19.4%).
- For persons killed, crash occupants aged 10 to 14 years had the highest percentage of being unbelted (83.3%).

Occupant Characteristics (Including Driver)

Seatbelt Use by Gender of Crash Occupants (Utah 2003)

Persons									
Gender	Seatbelt Use	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
		#	%	#	%	#	%	#	%
F	Belted	39,806	97.7%	12,102	90.9%	53	58.9%	51,961	96.0%
	Unbelted	938	2.3%	1,214	9.1%	37	41.1%	2,189	4.0%
M	Belted	48,049	96.9%	8,573	85.9%	50	39.7%	56,672	94.9%
	Unbelted	1,537	3.1%	1,402	14.1%	76	60.3%	3,015	5.1%
Unknown	Belted	99	95.2%	16	100.0%	0	0.0%	115	95.8%
	Unbelted	5	4.8%	0	0.0%	0	0.0%	5	4.2%
Total	Belted	87,954	97.3%	20,691	88.8%	103	47.7%	108,748	95.4%
	Unbelted	2,480	2.7%	2,616	11.2%	113	52.3%	5,209	4.6%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

- Overall, female (96.0%) and male crash occupants (94.9%) reported similar seatbelt use.
- For injured crash occupants, reported seatbelt use was greater for females (90.9%) than for males (85.9%).
- For persons killed, female crash occupants had higher seatbelt use (58.9%) than male crash occupants (39.7%). In fact, the majority of male occupants killed in a crash were unbelted (60.3%).
- In addition, reported seatbelt use for fatalities was almost half of that reported for total crash occupants regardless of gender.

Seatbelt Use by Occupant Placement (Utah 2003)

Persons									
Occupant Placement	Seatbelt Use	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
		#	%	#	%	#	%	#	%
Driver	Belted	59,548	97.5%	13,937	90.9%	62	50.4%	73,547	96.1%
	Unbelted	1,513	2.5%	1,398	9.1%	61	49.6%	2,972	3.9%
Front Seat Passenger	Belted	15,370	96.4%	4,484	86.3%	27	54.0%	19,881	93.9%
	Unbelted	570	3.6%	709	13.7%	23	46.0%	1,302	6.1%
Back Seat Passenger	Belted	13,036	97.0%	2,270	81.7%	14	32.6%	15,320	94.2%
	Unbelted	397	3.0%	509	18.3%	29	67.4%	935	5.8%
Total	Belted	87,954	97.3%	20,691	88.8%	103	47.7%	108,748	95.4%
	Unbelted	2,480	2.7%	2,616	11.2%	113	52.3%	5,209	4.6%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

- Reported seatbelt use did not vary substantially by seating location. Among all occupants, drivers reported the highest seatbelt use (96.1%) compared to persons in other seating locations.

Occupant Characteristics (Including Driver)

Air Bags and Seatbelt Use (Utah 2003)

Persons (Whose Airbag Deployed)									
Age	Seatbelt Use	Non-Injured Persons		Injured Persons		Persons Killed		Total Persons	
		#	%	#	%	#	%	#	%
0-4	Belted	22	100.0%	16	84.2%	0	0.0%	38	90.5%
	Unbelted	0	0.0%	3	15.8%	1	100.0%	4	9.5%
5-9	Belted	9	81.8%	8	100.0%	0	0.0%	17	89.5%
	Unbelted	2	18.2%	0	0.0%	0	0.0%	2	10.5%
10-14	Belted	23	95.8%	16	84.2%	0	0.0%	39	90.7%
	Unbelted	1	4.2%	3	15.8%	0	0.0%	4	9.3%
15-19	Belted	198	93.0%	256	86.2%	0	0.0%	454	88.8%
	Unbelted	15	7.0%	41	13.8%	1	100.0%	57	11.2%
20-24	Belted	210	93.8%	225	87.5%	0	0.0%	435	90.1%
	Unbelted	14	6.3%	32	12.5%	2	100.0%	48	9.9%
25-29	Belted	132	96.4%	129	89.0%	5	100.0%	266	92.7%
	Unbelted	5	3.6%	16	11.0%	0	0.0%	21	7.3%
30-34	Belted	65	94.2%	94	86.2%	1	100.0%	160	89.4%
	Unbelted	4	5.8%	15	13.8%	0	0.0%	19	10.6%
35-39	Belted	46	95.8%	79	92.9%	1	33.3%	126	92.6%
	Unbelted	2	4.2%	6	7.1%	2	66.7%	10	7.4%
40-44	Belted	74	96.1%	69	97.2%	0	0.0%	143	96.0%
	Unbelted	3	3.9%	2	2.8%	1	100.0%	6	4.0%
45-49	Belted	45	95.7%	62	92.5%	0	0.0%	107	93.9%
	Unbelted	2	4.3%	5	7.5%	0	0.0%	7	6.1%
50-54	Belted	35	100.0%	59	96.7%	1	50.0%	95	96.9%
	Unbelted	0	0.0%	2	3.3%	1	50.0%	3	3.1%
55-59	Belted	23	100.0%	50	94.3%	1	50.0%	74	94.9%
	Unbelted	0	0.0%	3	5.7%	1	50.0%	4	5.1%
60-64	Belted	20	95.2%	30	90.9%	1	50.0%	51	91.1%
	Unbelted	1	4.8%	3	9.1%	1	50.0%	5	8.9%
65-69	Belted	16	100.0%	32	97.0%	0	0.0%	48	94.1%
	Unbelted	0	0.0%	1	3.0%	2	100.0%	3	5.9%
70-74	Belted	15	100.0%	25	89.3%	1	100.0%	41	93.2%
	Unbelted	0	0.0%	3	10.7%	0	0.0%	3	6.8%
75-79	Belted	8	100.0%	23	92.0%	0	0.0%	31	93.9%
	Unbelted	0	0.0%	2	8.0%	0	0.0%	2	6.1%
80-84	Belted	8	100.0%	17	94.4%	1	100.0%	26	96.3%
	Unbelted	0	0.0%	1	5.6%	0	0.0%	1	3.7%
85+	Belted	3	100.0%	11	100.0%	1	50.0%	15	93.8%
	Unbelted	0	0.0%	0	0.0%	1	50.0%	1	6.3%
Unknown	Belted	1	100.0%	6	100.0%	0	0.0%	7	100.0%
	Unbelted	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	Belted	953	95.1%	1,207	89.7%	13	50.0%	2,173	91.6%
	Unbelted	49	4.9%	138	10.3%	13	50.0%	200	8.4%

NOTE: Seatbelt use may be inflated due to over-reporting by the people involved in crashes.

- The above table shows the age of crash occupants whose air bag deployed and the percentage of belt use.
- A majority of the total (91.6%) and injured occupants (89.7%) whose air bag deployed were wearing a seatbelt. However, only half (50.0%) of the persons killed whose air bag deployed were wearing a seatbelt.
- Airbags are a supplemental safety device, and were designed to be used with a seatbelt. Therefore, airbags are most effective when used in conjunction with a seatbelt.

Children and Restraint Use

Restraint Use for Children Age 0 to 8 Years by Seating Location (Utah 2003)

Children								
Seating Location	Restraint Use	Children Ages 0-1		Children Ages 2-4		Children Ages 5-8		Total Children
		#	%	#	%	#	%	# %
Front Middle Seat	Child Safety Seat	23	76.7%	25	36.8%	5	4.4%	53 25.0%
	Other Belted	4	13.3%	37	54.4%	98	86.0%	139 65.6%
	Unbelted	3	10.0%	6	8.8%	11	9.6%	20 9.4%
Front Right Seat	Child Safety Seat	56	76.7%	97	43.7%	36	5.3%	189 19.4%
	Other Belted	14	19.2%	116	52.3%	610	90.0%	740 76.1%
	Unbelted	3	4.1%	9	4.1%	32	4.7%	44 4.5%
Back Seat	Child Safety Seat	1,573	87.6%	2,198	70.9%	443	14.5%	4,214 52.9%
	Other Belted	205	11.4%	856	27.6%	2,500	81.6%	3,561 44.7%
	Unbelted	18	1.0%	46	1.5%	120	3.9%	184 2.3%
Total	Child Safety Seat	1,652	87.0%	2,320	68.4%	484	12.6%	4,456 48.7%
	Other Belted	223	11.7%	1,009	29.8%	3,208	83.2%	4,440 48.6%
	Unbelted	24	1.3%	61	1.8%	163	4.2%	248 2.7%

- The above table shows that as children's age increased, so did their likelihood to be unbelted. The unbelted percentage for children aged 0 to 1 years was 1.3%, while the unbelted percentage for children aged 5 to 8 years was 4.2%.
- The majority of children aged 0 to 1 years (87.0%) were in a child safety seat at the time of the crash, compared to 68.4% of 2 to 4 year olds, and 12.6% of 5 to 8 year olds.
- Children aged 0 to 1 years were 3 times more likely to be in a child safety seat than children between the ages of 2 to 4 years.
- The decrease in child safety seat use for children aged 2 to 4 years and 5 to 8 years is concerning. The National Highway Traffic Safety Administration recommends that older children ride in belt-positioning booster seats until they are approximately 80 pounds and can use an adult-size lap and shoulder belt system. The percentages of child safety seat use in the above table indicate that children are often moved to adult-sized seatbelts prematurely.